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United States Patent [19]

Uno

[11] **Patent Number:** **5,507,615**[45] **Date of Patent:** **Apr. 16, 1996**[54] **DEVICE FOR PILING BUNDLES OF SHEETS**[76] Inventor: **Tadao Uno**, 1-84, Matsugaoka
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Japan[21] Appl. No.: **274,364**[22] Filed: **Jul. 13, 1994****Related U.S. Application Data**

[63] Continuation of Ser. No. 991,967, Dec. 17, 1992, abandoned.

[30] **Foreign Application Priority Data**

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414/790.3[58] **Field of Search** 198/418.1, 431,
198/436, 457, 468.1; 414/790.3, 788.3,
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587[56] **References Cited****U.S. PATENT DOCUMENTS**

2,769,378 11/1956 Jochem 414/926 X

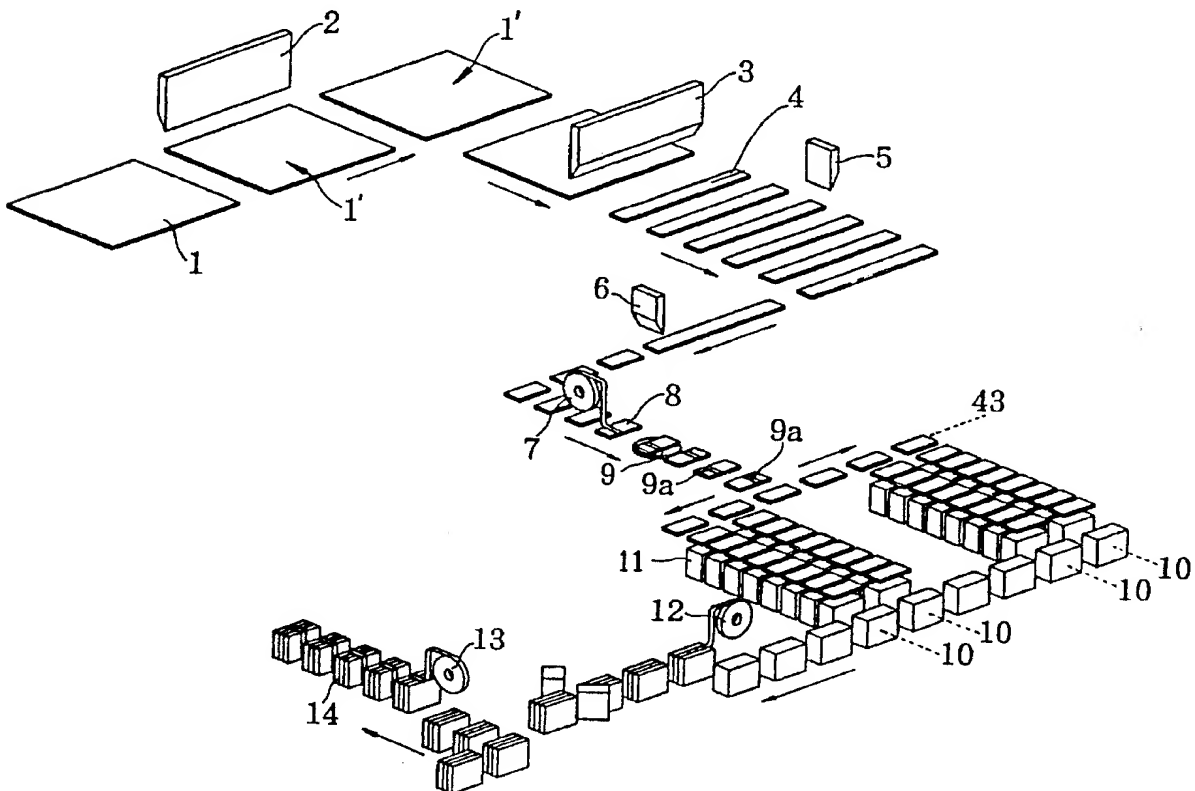
3,054,516	9/1962	Joa	414/794.2 X
4,249,844	2/1981	Lampe et al.	414/794.2 X
4,283,902	8/1981	Giori	53/399
4,483,124	11/1984	Ohba et al.	53/587 X
4,576,536	3/1986	Benuzzi	198/457 X
4,944,138	7/1990	Aivola et al.	414/794.7 X
5,012,932	5/1991	Omura et al.	53/587 X

FOREIGN PATENT DOCUMENTS

2240078 7/1991 United Kingdom 198/418.1

Primary Examiner—William E. Terrell*Assistant Examiner*—Janice Krizek*Attorney, Agent, or Firm*—Wenderoth, Lind & Ponack[57] **ABSTRACT**

A plurality of sheet-bundle piling lanes are disposed in perpendicular relation with respect to a common sheet-bundle feed lane for gradually feeding sheet-bundles. At a communicating portion between the sheet-bundle feed lane and each sheet-bundle piling lane, a sheet-bundle take-in lever for taking the sheet-bundles from the former lane to the latter lane, is disposed. Blocks of bundles of sheet that are piled up are formed at each sheet-bundle piling lane.

14 Claims, 5 Drawing Sheets



US005476361A

United States Patent [19]**Uno**[11] **Patent Number:** **5,476,361**[45] **Date of Patent:** **Dec. 19, 1995**[54] **DEVICE FOR PILING BUNDLES OF SHEETS**[76] **Inventor:** Tadao Uno, 1-84, Matsugaoka
1-chome, Chigasaki-shi, Kanagawa-ken,
Japan[21] **Appl. No.:** **169,981**[22] **Filed:** **Dec. 16, 1993****Related U.S. Application Data**

[62] Division of Ser. No. 991,967, Dec. 17, 1992, abandoned.

[30] **Foreign Application Priority Data**

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[51] **Int. Cl.⁶** **B65G 57/06**[52] **U.S. Cl.** **414/790.3; 198/431; 414/794.2;**
414/794.7; 414/926[58] **Field of Search** 198/418.1, 431,
198/436, 457, 468.1; 414/790.3, 791.1,
794.2, 794.7, 926, 790.9[56] **References Cited****U.S. PATENT DOCUMENTS**2,769,378 11/1956 Jochem .
3,054,516 9/1962 Joa .
4,249,844 2/1981 Lampe et al. .
4,944,138 7/1990 Aiuola et al. 53/540*Primary Examiner*—Michael S. Huppert*Assistant Examiner*—Janice L. Krizek*Attorney, Agent, or Firm*—Wenderoth, Lind & Ponack[57] **ABSTRACT**

A plurality of sheet-bundle piling lanes are disposed in perpendicular relation with respect to a common sheet-bundle feed lane for gradually feeding sheet-bundles. At a communicating portion between the sheet-bundle feed lane and each sheet-bundle piling lane, a sheet-bundle take-in lever, for taking the sheet-bundles from the former lane to the latter lane, is disposed. Blocks of bundles of sheets that are piled up are formed at each sheet-bundle piling lane.

2 Claims, 5 Drawing Sheets